



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,757	08/21/2003	Sang-Tae Kim	RPL-0010 REI	7559
34610 7590 04/30/2008 KED & ASSOCIATES, LLP P.O. Box 221200 Chantilly, VA 20153-1200				
EXAMINER				
WILLIAMS, JOSEPH L				
ART UNIT		PAPER NUMBER		
2889				
MAIL DATE		DELIVERY MODE		
04/30/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/644,757

Applicant(s)

KIM, SANG-TAE

Examiner

Joseph L. Williams

Art Unit

2889

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-33, 53-55 and 59-67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-33, 53-55, and 59-67 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/808)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The response filed on 1/3/2008 has been entered.

The allowability of claims 23-33, 53-55, and 59-67 has been withdrawn.

Double Patenting

1. Claims 53-54 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 31-32. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 23-33, 53-55, and 59-67 are rejected under 35 U.S.C. 102(e) as being anticipated by Hayashi et al. (US 6,086,790), of record.

Regarding claim 23, Hayashi ('790) teaches in figure 2 and table 1 (see test number 10), a method of forming a multi-layer structure for a display panel comprising

forming a layer (lower layer) having a composition of intermixed first and second components, wherein a first component is different in color from a second component; and thereafter forming two substantially separate and distinct sub-layers within the layer, wherein the first sub-layer comprises the first component (black powder) and the second sub-layer comprises the second component (silver).

Please note that although the layers are applied separately, intermixing occurs thereafter. Hayashi ('790) recognizes this and teaches the step of separating the powders.

Regarding claim 24, Hayashi ('790) teaches the first component (carbon black) is darker than the second component (silver).

Regarding claim 25, Hayashi ('790) teaches each component has a specific gravity, and wherein the two sub-layers are formed within the layer based on the specific gravity of each of the two components (properties of carbon black and silver).

Regarding claim 26, Hayashi ('790) teaches the second component is Ag.

Regarding claim 27, Hayashi ('790) teaches the first component is carbon black powder.

Regarding claim 28, Hayashi ('790) teaches the first component has a specific gravity of larger than 7, and the second component has a specific gravity smaller than 3 (properties of carbon black powder and Ag).

Regarding claims 29 and 30, Hayashi ('790) teaches heating the two sub-layers by baking (read drying) (see column 19, lines 6-14).

Regarding claim 31, Hayashi ('790) teaches that the panel can be a plasma display panel.

Regarding claim 32, Hayashi ('790) teaches the multi-layer structure is an electrode (see column 24, lines 54-57).

Regarding claim 33, Hayashi ('790) teaches each component has a different specific gravity, wherein the difference is sufficient to cause separation of each component into its own sub-layer by gravity (properties of carbon black powder and Ag).

Regarding claim 53, Hayashi ('790) teaches the display panel is a plasma display panel.

Regarding claim 54, Hayashi ('790) teaches the multi-layer structure is a sustain electrode of the plasma display panel.

Regarding claim 55, Hayashi ('790) teaches the plasma display panel comprises: a front substrate (1); a rear substrate (2) in parallel to the front substrate; sustain electrodes (S) on the front substrate; an insulating layer (8) on the sustain electrodes; partitions (3) formed between the front substrate and the rear substrate; an address electrode (A) on the rear substrate; and a fluorescent layer (5) within the partitions.

Regarding claim 59, Hayashi ('790) teaches (similar to claim 23 above) multi-layer structure for a display panel, comprising: a layer having an initial composition of intermixed first and second components, wherein the first component is different in color from the second component, wherein each component has a specific gravity, and wherein two substantially separate and distinct sub-layers are formed within the layer based on the specific gravity of the first and second components.

Regarding claim 60, Hayashi ('790) teaches the first component is darker than the second component.

Regarding claim 61, Hayashi ('790) teaches the second component is Ag.

Regarding claim 62, Hayashi ('790) teaches the first component is a black powder.

Regarding claim 63, Hayashi ('790) teaches the first component has a specific gravity larger than 7, and the second component has a specific gravity smaller than 3.

Regarding claim 64, Hayashi ('790) teaches the two sub-layers within the layer are formed by heating the layers.

Regarding claim 65, Hayashi ('790) teaches the two sub-layers within the layer are formed by drying or firing the layer.

Regarding claim 66, Hayashi ('790) teaches the display panel is a plasma display panel.

Regarding claim 67, Hayashi ('790) teaches the multi-layer structure is a sustain electrode of a plasma display panel.

Response to Arguments

Applicant's arguments filed 8/29/2006 have been fully considered but they are not persuasive. The Applicant has argued that the Hayashi ('790) reference does not teach a composition of intermixed first and second components. The Examiner respectfully disagrees and notes that although the layers are applied separately, intermixing occurs thereafter. Hayashi ('790) recognizes this and teaches the step of separating the powders.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Williams whose telephone number is (571) 272-2465. The examiner can normally be reached on M-F (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh-Toan Ton can be reached on (571) 272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph L. Williams/
Primary Examiner, Art Unit 2889